

Date: Friday, 9/21/2007 12:59:23 PM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : CROSSTUBE EXTRUSION (206L)
Job Number : 34774	
Estimate Number : 10027	
P.O. Number :	Part Number : D6004115
This Issue : 9/21/2007 S.O. No. :	Drawing Number : D6004 REV A
Prsht Rev. : NC	Project Number : N/A
First Issue : / / Type : RMA	Drawing Revision : A
Previous Run : 34685	Material :
Written By :	Due Date : 9/28/2008 Qty: 36 Um: Each
Checked & Approved By : <i>07.09.24</i>	
Comment : Est Rev:B 00.12.15 Added: Issue P/O EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	PG	PURCHASING
-----	----	------------



Comment: PURCHASING

Issue P/O *4660*

a) Extrude as per Dwg D6004

b) Material: 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9

or QQ-A-200/11) seamless aluminum tube

c) Minimum ultimate tensile strength = 77 ksi

d) Minimum tensile yield strength = 66 ksi

e) Material certification required

*CLO 7/09/24**(36)*

2.0	D6004115P	Crosstube material
-----	-----------	--------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 36.0000 Each(s)

Crosstube material

3.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material certification is attached

AS 08/09/16

4.0	QC6	DIMENSIONAL CHECK
-----	-----	-------------------



Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6004

counter
08/09/16 *(+309) 39*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 9/21/2007 12:59:23 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: CROSSTUBE EXTRUSION (206L)

Job Number: 34774

Part Number: D6004115

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

u/a S

6.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *2x tube cell*

H / RT

08-09-17

7.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/09/18
[Signature]

Job Completion



MF 08-09-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

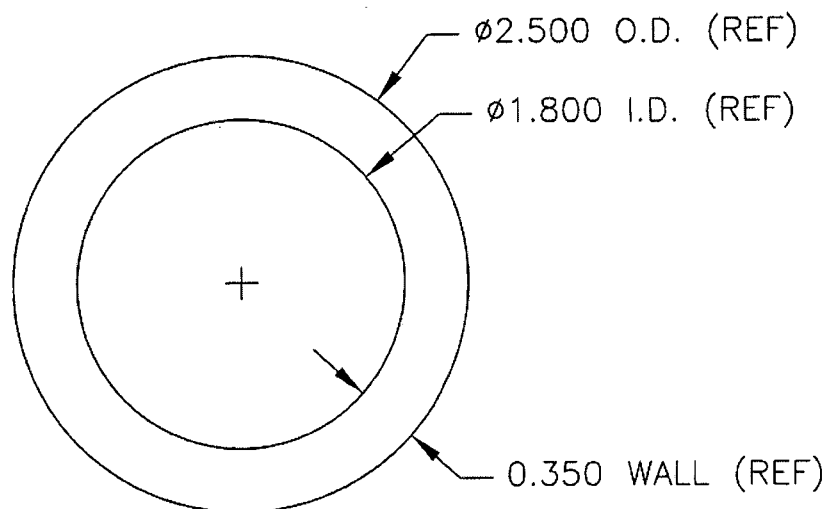
NOTE: Date & initial all entries



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D6004	REV. A SHEET 1 OF 1
DATE 00.11.22		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.22	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED
00.11.24 *#*



NOTES

- 1) D6004-XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 115" LONG TUBE: D6004-115

- 2) MATERIAL: 2.500 OD x 0.350 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-320/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.006 MEAN (± 0.012 INCLUDING OVALITY)
WALL: ± 0.015 MEAN (± 0.035 INCLUDING ECCENTRICITY)
LENGTH: XXX $+0.125/-0.000$
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 34774

Copyright © 2000 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

Customer PO	PO. 00004660
ALUnna ref. no.	27068/2
Date:	08.12.08

Dart Aerospace PO. 00004660 D 6004-115
Made in Germany
Dest. Hawkesbury Ont. Canada

free from live plant pests

18
08/02/16

**ALUnna****Abnahmeprüfzeugnis 3.1 - EN 10204:2004****Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004****Kunde:** Dart Aerospace Ltd.**Client:**1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada**Zeugnisnummer:** 1177/08**Cert No. / No. du certificat:****Bestellnummer:** PO 00004660**Order No. / No. de commande****Auftrag:** 27068/2**Our Reference/Notre Reference:****Produkt:** Rohre nahtlos gepresst**Product / Produit:** Tubes seamless extruded**Spezifikation:** AMS - QQ - A - 200/11; Spezifikation Dart Aerospace D6004**Specification:****Werkstoff:** 7075**Alloy/Alliage:****Zustand:** T 6511**Temper/État****Abmessung:** 2,500 INCH x 1,800 INCH x 0,350 INCH x 115,000 INCH**Size / Dimension:** D6004-115 2.500 X 0.350 X 115**Kennzeichnung:** ALUnna - Cert No. 1177/08 - 7075 - T 6511 - Cast No. 1245 - AMS - QQA 200/11 - 2.500" OD X 0.350" Wall - Heat**Marking/Marquage:** No. 1820 - Lot 27068/2-1 PO. 00004660**Lieferung**

pcs.

lbs

Country of Manufacture: Germany**Delivered Material / Matériel délivré:**

39

1049

1. Chemische Analyse**Chemical Analysis / analyse chimique**

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
1245/08	0,093	0,185	1,399	0,044	2,455	0,192	5,758	0,036	0,002	0,0167	0,0001	0,0011	0,0001

Hydrogen content: 0,11**ccm/100 g Al** Elements without indication < 0,01 %**country of melt manufacturer: Germany****2. Mechanische Eigenschaften****Mechanical Properties / Valeurs Mécaniques**

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat No.
min.	77,0	66,0				
max.						
1	86,130	79,750	10,0	S 08/08/16		1820 - 39 pcs.
2	86,275	79,895	9,0			

RMS: outside 25 - max. 16,1 µ"

**Ergebnis der
Prüfungen:**

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

Kramper

Certified acc. DIN EN ISO 9001:2000 and DIN EN 9100:2003
valid until 2010-11-11

Cert.- Reg. No.: 001959 QM; 001959 ASH

14.08.2008

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany



ALUnna

Abnahmebeauftragter